

NASA Glenn Safety Manual

CHAPTER 27 – BUILDING EMERGENCY EVACUATION PLAN PROGRAM

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27.1 PURPOSE

This chapter describes the Glenn Emergency Evacuation Plan, including the basic procedures and responsibilities.

27.2 DEFINITIONS

Incipient Stage Fire

A fire in the initial or beginning stage which can be controlled or extinguished by portable fire extinguishers without the need for protective clothing or breathing apparatus (e.g., a trashcan fire).

Qualified (as used in "qualified to use Glenn extinguishers)

Personnel who have received training to use fire extinguishers.

STEEP

Safety Training in the Execution of Emergency Procedures is an unannounced exercise of evacuation and other procedures related to an emergency.

27.3 APPLICABILITY

- a. The provisions of this Instruction are applicable to the Cleveland Center and the Plum Brook Station.
- b. Evacuation provisions are applicable to fires and other occurrences for which evacuation is appropriate, including low oxygen or toxic spills in buildings.
- c. Shelter provisions are applicable to inclement weather conditions.

27.4 POLICY

It is the policy of the Glenn Research Center that personnel at the location where a fire occurs will take action in the following sequence:

- a. Immediately activate the nearest pull station and evacuate to the designated safe location while warning others.
- b. Report the emergency condition to the Glenn dispatcher by telephone by dialing 911.
- c. Fight a fire that is still in the incipient stage (e.g., a trash can fire) using a portable fire extinguisher, if qualified to do so.
- d. Evacuate to the designated safe location if the fire is beyond the incipient stage, significant smoke develops, or the fire starts to increase in size.
- e. Do not re-enter the building until the building is declared safe to re-enter.

Only personnel who have received fire extinguisher training will be qualified to use Glenn fire extinguishers.

It is the policy of the Glenn Research Center I at the location where a low oxygen alarm condition exists; or a toxic release occurs; or a combustible gas alarm condition exists; personnel will take action in the following sequence:

- a. Immediately activate the nearest pull station and evacuate to the designated safe location while warning others.
- b. Report the emergency condition to the Glenn dispatcher by telephone by dialing 911.
- c. Keep non-emergency personnel from entering the affected area.

Where provided, the smoke detection system; the automatic sprinkler protection system; the carbon dioxide extinguishing systems; the low oxygen detection systems; the combustible gas detection systems, and the toxic gas detection systems are arranged to sound a local alarm as a minimum and will transmit a signal to the Central Dispatch in Building 14.

There will be a provision on every evacuation alarm system at the Cleveland Center to initiate the response of the Emergency Response Team to the scene when the alarm system is activated either manually or automatically.

Direct voice communication will be used to sound the alarm in buildings without alarm boxes (such as gate houses). This type of system will be used only where the building houses 10 or fewer employees and the alarm can be heard at all points within the building.

27.5 RESPONSIBILITIES

Building Evacuation Monitors and Alternates will direct and supervise the planned and controlled movement of all personnel out of Glenn buildings. They will direct and supervise the planned evacuation and controlled movements of personnel to shelters.

27.5.1 There duties are to:

- a. Ensure that personnel move to a safe area on the sounding of an evacuation signal or a shelter signal.
- b. Ensure the safe flow of personnel along approved evacuation routes.
- c. Check assigned area to ensure personnel have evacuated the area.
- d. Assist persons with disabilities in accordance with preplanned procedures (reference Appendix A).
- e. Recognize the presence of potential hazards and know the Building Evacuation Plan in order to provide appropriate direction to personnel.
- f. Report any employees/visitors missing to the onsite emergency response personnel.
- g. Assist Glenn First Responders and Security personnel in preventing unauthorized entry into buildings and loss or theft of Government and private property.
- h. Cooperate with all emergency personnel.
- i. Provide appropriate instructions when an emergency no longer exists and it is safe for personnel to return to vacated buildings or facilities.

27.5.2 Individual Employees will be required to:

- a. Know the evacuation procedure applicable to each of their work location to ensure their individual safety in the event of an emergency. Know the location of fire alarm pull boxes.
- b. Have secondary exit route in case primary exit route is blocked.
- c. When evacuation alarm sounds, stop work and turn off computers or any electrical device, if applicable, and immediately evacuate the building, assisting visitors, interns, etc., along the approved evacuation routes to a safe area. Do not use elevators. Do not lock office doors.
- d. Report to the Building Evacuation Lead/Alternate Monitor once outside the building. Stay in designated area until told to report to a shelter area or that the building is safe to re-enter by the Glenn Emergency Preparedness Coordinator or the Glenn Safety Office First Responders.
- e. Maintain clear and unobstructed egress routes.
- f. Review Glenn Safety Office Web site for evacuation routes for present location.

- g. Post evacuation routes in a location in office or work area and indicate present location on the bldg. layout.
- h. Review with all visitors, students, interns or other personnel in control of employee, posted evacuation routes for the occupied space of the building.

27.5.3 Supervisors will:

- a. Review the Glenn Building Evacuation Plan with his/her employees. Also review any suggested changes in either the employee's responsibilities or changes in the plan with the affected employee.
- b. Assign Building Evacuation Monitors (Lead/Alternate) for each area, and ensure this responsibility is specified in the employee's Performance Plan.
- c. Ensure that an evacuation procedure has been preplanned when a disabled individual is assigned to a duty location for the first time. Assign Individual with Disability Monitors to personnel where needed.
- d. Ensure that themselves, the Area Safety Committee Chairperson, and the Glenn Safety Officer prepare a specific written procedure for any critical operation that would delay evacuation and that the procedure is approved.
- e. When an evacuation occurs, ensure that all employees are accounted for.

27.5.4 Building Manager will:

- a. Work with the Glenn Safety Office to develop a Building Evacuation Plan. Post evacuation routes throughout the building. Post list of Building Evacuation Monitors on the bulletin boards.
- b. Review the Building Evacuation Plan annually in conjunction with the STEEP exercise. Ensure that the Plan is revised as necessary.
- c. Conduct training of building personnel in the Building Evacuation Plan in coordination with the Glenn Safety Office.
- d. In coordination with the Glenn Safety Office, schedule and conduct an annual STEEP exercise for the building.

27.5.5 Employees with disabilities

The evacuation of employees with disabilities requires the attention of the Glenn Safety Office, the Office of Human Resources, the immediate supervisor of the disabled employee, and the individual employee (detailed requirements are provided in Appendix A, Emergency Evacuation Procedures for Employees with Disabilities).

27.5.6 Glenn Safety Office First Responders are responsible for:

- a. Monitoring emergency alarms and providing initial response to these alarms.
- b. Upon arrival at the scene of the emergency, the GSO First Responders are in charge of the evacuation, provides information to the responding Fire Department, and coordinates recovery efforts.
- c. Conduct training of Building Evacuation Monitors.
- d. Ensure STEEP exercises are conducted with assistance from the Building Manager annually, and maintain records of these exercises.

27.5.7 Security Force will:

- a. Respond to emergencies to provide control of vehicles and personnel.
- b. Coordinate with the officer-in-charge at the scene.
- c. Prevent unauthorized entry into building and loss or theft of Government and private property.

27.5.8 Glenn Safety Office will:

- a. Provide overall coordination for the preplanning of evacuations and preparation of Building Evacuation Plans.
- b. Approves all Building Evacuation Plans and revisions to these plans.
- c. Through Safety Permit reviews, will ensure that any hazards, which may affect life safety and evacuation procedures, are addressed in the Building Evacuation Plan.
- d. Ensure the Building Manager reviews plans annually.
- e. Update, and keep current, assignments of personnel to serve as Building Evacuation Monitors or Alternates and issue copies of this Chapter and other pertinent data to newly assigned monitor personnel.
- f. Provide hands-on training in the use of extinguishers to employees.

27.5.9 Contracting Officer's Representative will:

Ensure that contractors are informed of evacuation procedures and the appropriate Building Evacuation Plan.

27.6 BUILDING EVACUATION PLANS

27.6.1 Building Evacuation Plans

Building Evacuation Plans are required by OSHA, 29 CFR 1910.38. This section specifies the content of Glenn Building Evacuation Plans. An evacuation plan will be developed for each building. This plan will be implemented when an emergency occurs at a building or area where individuals may be in danger.

The Glenn Safety Office, in coordination with Area Supervisors, Building Managers, and Security, is responsible for developing Building Evacuation Plans for each facility and/or building. Each plan will take into consideration potential hazards in the area, type of occupancy, research activities, daily activities, and personnel assigned to the area. The Building Evacuation Plan will include the following:

- a. Evacuation diagram illustrating the primary and alternate routes to an exit.
- b. Alarm system used to notify personnel to evacuate the area.
- c. Locations of alarm pull boxes and fire extinguishers.
- d. Safe area outside the building where all personnel will be accounted for.
- e. List of evacuation monitors and their alternates.
- f. Identification of assigned areas for each evacuation monitor and their alternates.
- g. Identification of special evacuation procedures and/or shutdown requirements.

Once the plan is developed, the Chief, Glenn Safety Office (GSO), approves it. The Area Safety Engineer from GSO and the Building Manager reviews the plan every year as a mandatory part of the STEEP exercise. The Building Manager is responsible for informing the Glenn Safety Office of any proposed or planned changes to the building or activities, which may affect the evacuation plan, including any plans for lockdown of facilities for classified programs. The Glenn Safety Office, supervisors, Building Managers, and each Building Evacuation Monitor will have copies of the Building Evacuation Plan.

27.6.2 Evacuation Signals

An evacuation alarm siren sounding within a building always means that employees are to evacuate the building or facility. In simple buildings (such as a gate house) where there are no evacuation alarm pull boxes, a direct voice communication, a shout of "Emergency-Get out," will be used to sound the alarm.

27.6.3 Escape Procedure and Routes

In general, when the evacuation alarm is heard, a fire is seen, or another emergency condition becomes known, employees will promptly secure the equipment in use and vacate the premises to the designated safe area where they will remain until released by the Glenn Safety Office First Responders. They will take the designated safe route to an exit, warning others along the way. The first to arrive at an evacuation alarm pull box or exit will sound the alarm and proceed to a safe location to make a telephone report.

The route followed during evacuation will be in accordance with designated Building Evacuation Plan or as directed by a Building Evacuation Monitor. (In the absence of a Monitor, supervisory personnel will assume the Monitor duties.) In complex buildings, such as test facilities, floor plans showing emergency equipment and escape routes will be posted at appropriate locations.

Escape procedures and routes for persons with disabilities will be preplanned in accordance with Appendix A, Emergency Evacuation Procedures for Employees with Disabilities, before the individual enters a building for the first time. (A specific written plan is required for personnel with disabilities to go above or below ground level and may also be required at ground level.)

27.6.4 Critical Operations

When someone is sounding the alarm and reporting the emergency due to a fire, employees qualified to use extinguishing equipment should delay evacuation to fight only incipient fires. Any other delay in evacuation for a critical operation (other than switching to secure an operation that will result in only a very short delay) will be preplanned and covered by a specific procedure which is approved by the supervisor, Area Safety Committee Chairperson, and the Glenn Safety Office. Copies of the approved procedure will be included in the Building Evacuation Plan.

27.6.5 Occupant Evacuation Verification

Upon arrival at the designated safe area, each supervisor will verify that all employees of the organizational component have reached safety. Any component that does not have a supervisor present will make this determination collectively. Names and last known location of missing employees will be reported to the Monitor for relay to the Glenn Emergency Preparedness Coordinator or any other onsite response personnel

27.6.6 Preferred Reporting Means

Any person who discovers a fire or other emergency will, from a safe location, immediately dial 911 on the nearest internal Glenn telephone to report the fire and assistance needed. The caller will state his or her name, location; type of help needed, and stay on the telephone until released by the dispatcher. Telephones will have stickers indicating the emergency number. Personnel utilizing cell phones or outside phones will call 433-8888. This phone number will ring directly to the Glenn Fire Dispatcher. The caller will follow the above reporting requirements.

27.7 TRAINING

27.7.1 Building Evacuation Monitors and Alternates

Building Evacuation Monitors and Alternates will receive annual on-the-job training in evacuation procedures through Project STEEP. When changes or additions to the procedures are made, the Glenn Safety Office will review them with the Monitors and Alternates prior to a STEEP exercise. The Glenn Safety Office prior to a STEEP exercise will train new Monitors and Alternates.

27.7.2 Individual Employees

Upon initial assignment, the immediate supervisor will review with each individual employee those parts of the Glenn Emergency Evacuation Plan and Building Evacuation Plan, which the employee must know to protect him or herself in the event of an emergency. The supervisor will also review with the employee any changes in the employee's responsibilities or designated action and changes in the plan. When present, employees will participate in all STEEP exercises at their location as though the incidents were real.

27.8 AUTHORITIES

- a. NHB 1700.1 (V1-B), NASA Safety Policy and Requirements Document, as revised.
- b. GPLD 1702.1G, Glenn Safety Program.
- c. 29 CFR 1910.38.
- d. Glenn Emergency Preparedness Plan.
- e. Americans with Disabilities Act.
- f. Chapter 31 Glenn Safety Manual

27.9 APPENDIX A

SUBJECT: EMERGENCY EVACUATION PROCEDURES FOR EMPLOYEES WITH DISABILITIES

1. PURPOSE

This Appendix sets forth policies, responsibilities and procedures affording employees with physical disabilities an acceptable level of safety during emergency evacuation conditions.

2. APPLICABILITY

The provisions of this Instruction are applicable to all Glenn employees with disabilities.

3. POLICY

- a. Special evacuation provisions will be made for all individuals who have a disability that restricts or impairs their mobility to the extent that they would have difficulty in evacuating a building during an emergency.
- b. A specific written emergency evacuation plan for the individual will be prepared by the employee's supervisor and approved by the Glenn Safety Officer.
- c. Wherever possible, such persons shall have their normal duty station located on the ground floor level of buildings.

- d. If the employee must work alone, an appropriate level of the "Buddy System" (Glenn Safety Manual, Chapter 22) must be used. The Glenn Safety Office must be notified if the employee is assigned to off-shift duty or another duty station/building.
- e. Elevators will not be used as emergency egress devices unless under the supervision and control of the responding Fire Department.

4. RESPONSIBILITIES

- a. Glenn Safety Office is responsible for monitoring the locations of all employees with disabilities at the Center and to ensure that proper alarm devices and safety procedures are provided to accommodate safe egress. The Safety Officer shall approve the written evacuation plan and advise the Building Evacuation Monitors, Building Manager, Individuals with Disability Monitors and any others involved, of the specific evacuation procedures for these persons.
- b. The Medical Services Office will monitor employees with disabilities and provide the Glenn Safety Office with the names of those employees who, in the opinion of the doctor, may have difficulty in evacuating buildings.
- c. Office of Human Resources will notify Medical Services and the Safety Officer of new employees who have disabilities.
- d. Individuals with Disability Monitors will assist the employee during an emergency evacuation as defined in the plan. They will maintain awareness of the location of the employee and ensure that the plan remains valid. If conditions in the building or surrounding environment change, reducing the effectiveness of the plan, they shall notify the Glenn Safety Office and the Building Manager
- e. Employee's supervisor is responsible for preparing the specific emergency evacuation plan and, after approval by the Glenn Safety Office, implementing the plan. The supervisor is responsible for the day-to-day safety of the employee and of making sure that the Individual with Disability Monitors know what to do in case of an emergency evacuation.
- f. The employee is responsible for knowing and understanding Glenn emergency procedures in general and his/her specific emergency evacuation plan. The employee is responsible for making his/her whereabouts known at all times. The employee will notify the Medical Services Office of any change in his/her condition that could affect his/her performance during an emergency.

5. EMPLOYEE EMERGENCY EVACUATION PLAN

- a. A written emergency evacuation plan must be written for all employees who have declared themselves to have a physical disability identified by the Americans with Disabilities Act (ADA). The employee's supervisor in consultation with the Glenn Safety Office will prepare the specific written evacuation plan. The plan will define provisions for emergency egress, including the method of egress, route of egress, contingency route(s), duties of

other employees assisting the individual (Individuals with Disability Monitors), and the role of the responding Fire Department personnel.

- b. Upon approval of the plan by the Glenn Safety Office, copies will be on file in the Glenn Safety Office and with the employee's supervisor.
- c. A meeting to ensure that all involved are properly informed shall be held with the employee. The meeting will include the responsible Building Evacuation Monitors, employee's immediate supervisor, Glenn Safety Office, Individual with Disability Monitors and any others involved in the plan. Copies of the plan will be given to those attending the meeting. (NOTE: It is important that everyone involved in evacuating an employee with a disability knows what to do and who is responsible for what.)
- d. The Glenn Safety Office and all involved parties will review the plan annually for currency as part of the annual STEEP exercise.

NASA Responsible Official: [Manuel Dominguez](#)

Web Curator: [Deborah Ripley](#)